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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/633,564

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Kyung-Geun Lee

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05/10/2006

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EXAMINER

PATEL, GAUTAM

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/633,564

Applicant(s)

LEE ET AL.

Examiner

Gautam R. Patel

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/5/06;12/22/05</u> . | 6) <input type="checkbox"/> Other: ____  |

### DETAILED ACTION

1. Claims 1-31 are pending for the examination.

#### Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. § 119(a)-(d), which papers have been placed of record in the file.

### Claim Rejections - 35 U.S.C. § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-11 & 21-22 are rejected under 35 U.S.C. § 102(b) as being anticipated by Kashihara et al., US. patent 5,793,741 (hereafter Kashihara).

As to claim 10, Kashihara discloses the invention as claimed [see Figs. 1-4] including a first area, a second area and two track pitches, comprising:

a first area in which first data is recorded in corresponding first tracks, adjacent pairs of the first tracks having a first track pitch; and

a second area in which second data is recorded in corresponding second tracks, adjacent pairs of the second tracks having a second track pitch other than the first track pitch [col. 2, line 47 to col. 3, line 9].

4. The aforementioned claim 11, recites the following elements, inter alia, disclosed in AAPA:

the first area is within a lead-in area of the optical information storage medium [fig. 1, paragraph 3-5].

5. As to claims 21-22, they are claims corresponding to claims 10-11 respectively and they are therefore rejected for the similar reasons set forth in the rejection of claims 10-11 respectively, supra.

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As to the added limitations of an optical unit to transfer data and a controller associated with optical unit, these are components inherently present and are necessary to operate a disc and record and read data from it.

### **Claim Rejections - 35 U.S.C. § 103**

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 12-20, & 23-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA, Applicants Admitted Prior Art (hereafter AAPA) in view of Kashihara as applied to claims 10-11 and 21-22 above.

As to claim 1, AAPA discloses the invention as claimed [see Fig. 1], a storage medium including a lead-in area, a lead-out area, and a user data area comprising the steps of:

a lead-in area;

a lead-out area; and

a user data area formed between the lead-in and lead-out areas and in which user data is recorded, wherein pits are formed in tracks in the lead-in area, the user data area, and the lead-out area [fig. 1, paragraph 3-5].

AAPA discloses all of the above elements, including lead-in lead-out areas and pits are formed in these areas. AAPA does not specifically disclose two types of track pitch in different areas to the extent claimed.

However, different track pitches are well known in the art for awhile and are routinely used for increasing control signal stability. Also more importantly, Kashihara clearly discloses:

a first track pitch between adjacent tracks in all or a portion of the area is different from a second track pitch between adjacent tracks in remaining areas of the optical information storage medium [col. 2, line 47 to col. 3, line 9].

Both AAPA and Kashihara are interested in improving the recording and reproducing mechanism in an optical disk device with minimum noise and maximum signal strength.

One of ordinary skill in the art at the time of invention would have realized that the system of AAPA would have been sensitive to noise because of that S/N ration will be lowered and stability of the tracking servo can be lost.

Therefore, it would have been obvious to have used a dual track pitch in the system of AAPA as taught by Kashihara because one would be motivated to reduce noise, increase differential signal amplitude, increase S/N ration and increase reliability of reading the control information in the system of AAPA and provide better signal controls and improve quality of the signals [col. 1, lines 28-39; Kashihara].

7. The aforementioned claim 2, recites the following elements, inter alia, disclosed in Kashihara:

the first track pitch is greater than the second track pitch [col. 2, line 47 to col. 3, line 9].

8. Regarding claim 3, although combination of AAPA and Kashihara does not specifically disclose that the lead-in area comprises a first subarea in which optical information storage medium-related information is recorded and a second subarea in which copy protection information is recorded. The limitations in claim 3 do not define a patentable distinct invention over that in AAPA and Kashihara since both the invention as a whole and combination of AAPA and Kashihara are directed to providing dual track pitch in a disc in different areas. The placement of the medium related information [which is inherently present in all the discs] and copy protection information [which is also present in almost all newer discs] presents no new or unexpected results, so long as the dual track pitch is provided and control area signals are clearly received and preserved in the control area in a successful way. If one needs to put control information in one area and copy protection area in other area for more safety it can be done. Therefore, to have two different area for control information and copy protection would have been routine experimentation and optimization in the absence of criticality.

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9. The aforementioned claims 4 & 5, recites the following elements, inter alia, disclosed in Kashihara:

Regarding claims 4 & 5, Kashihara teaches two track pitches as 1.6 & 1.2, with ratio as 1.33.

one skilled in the art would have clearly recognized that the selection of track pitch is a function of the conditions of the optical system.

Kashihara does not teach ratio of pitch to be 1.5 or higher as claimed.

However Kashihara clearly teaches that track pitches are variable with the laser wavelengths to be used in the system or the condition of optical system (see col. 2, lines 47-52).

Therefore, it would have been obvious to have used a 1.5 or more ratio of the track pitch in system of Kashihara & AAPA as taught by Kashihara in order to reduce noise adjust to the system parameters and different wavelengths of the laser.

10. As to claim 6, it is rejected for the similar reasons set forth in the rejection of claims 2 & 3, supra.

11. As to claims 7-8, they are claims corresponding to claims 4 & 5 respectively and they are therefore rejected for the similar reasons set forth in the rejection of claims 4 & 5 respectively, supra.

12. As to claim 9, combination of AAPA & Kashihara are silent as to how many layered disc they have. "Official Notice" is taken that both the concept and the advantages of providing a dual layer disc are well known and expected in the art. It would have been obvious to include a dual layer disc to AAPA & Kashihara system as this dual layer discs are known to provide the system with more storage capacity and thus saving time and money for recording the information. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03].

Also it is not clear what a dual layer disc has to do anything with dual track pitch disc.

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13. The aforementioned claim 12, recites the following elements, inter alia, disclosed in Kashihara:

the lead-in area includes additional data recorded in additional tracks, adjacent pairs of the additional tracks having another track pitch other than the first track pitch [col. 2, line 47 to col. 3, line 9].

14. The aforementioned claim 13, recites the following elements, inter alia, disclosed in Kashihara:

the another track pitch is the second track pitch [col. 2, line 47 to col. 3, line 9].

15. The aforementioned claim 14, recites the following elements, inter alia, disclosed in Kashihara:

the first data comprises information used in reproduction of the second data [col. 2, line 47 to col. 3, line 9].

16. The aforementioned claim 15, recites the following elements, inter alia, disclosed in Kashihara:

the first data comprises information used in reproduction of the second data [col. 2, line 47 to col. 3, line 9].

17. The aforementioned claim 16, recites the following elements, inter alia, disclosed in Kashihara:

the second area includes a user data area of the optical information storage medium [col. 2, line 47 to col. 3, line 9].

18. The aforementioned claim 17, recites the following elements, inter alia, disclosed in Kashihara:

the first data comprises information used in reproduction of the second data [col. 2, line 47 to col. 3, line 9].

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19. The aforementioned claim 18, recites the following elements, inter alia, disclosed in AAPA:

the second area includes a lead-out area disposed outside of the user data area, the lead-out area including additional data other than the second data [fig. 1, paragraph 3-5].

20. The aforementioned claim 19, recites the following elements, inter alia, disclosed in AAPA:

the first area is in a portion of a lead-in area, and the second area includes another portion of the lead-in area [fig. 1, paragraph 3-5].

21. The aforementioned claim 20, recites the following elements, inter alia, disclosed in AAPA:

the second area includes a lead-out area disposed outside of the user data area, the lead-out area including additional data other than the second data [fig. 1, paragraph 3-5].

22. As to claims 23-25, they are claims corresponding to claims 12-14 respectively and they are therefore rejected for the similar reasons set forth in the rejection of claims 12-14 respectively, supra.

23. As to claim 26, combination of AAPA & Kashiara are silent as to if a differential signal is used for performing tracking. "Official Notice" is taken that both the concept and the advantages of providing a differential signal when transferring data are well known and expected in the art. It would have been obvious to include a differential to system of AAPA & Kashiara as this signals are known to provide the system with more efficient way of transferring data and thus saving time and money for recording the information. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03].

Also the Applicants are merely claiming how a tracking system works.

24. The aforementioned claim 27, recites the following elements, inter alia, disclosed in Kashiara:



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wherein the second area includes a user data area of the optical information storage medium, and the second data is user data which the controller reproduces and/or records in the user data area [col. 2, line 47 to col. 3, line 9].

25. As to claims 28-31, they are claims corresponding to claims 14-20 respectively and they are therefore rejected for the similar reasons set forth in the rejection of claims 14-20 respectively, supra.

#### Other prior art cited

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Sako et al. (US. Patent 7031246).

#### Contact information

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is 571-272-7625. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dwayne Bost, who can be reached on (571) 272-7023.

Any inquiry of a general nature or relating to the status of this application should be directed to the Electronic Business Center whose telephone number is 866-217-9197 or the USPTO contact Center telephone number is (800) PTO-9199.

  
**GAUTAM R. PATEL**  
**PRIMARY EXAMINER**

Gautam R. Patel  
Primary Examiner  
Group Art Unit 2627

May 5, 2006